specimens of *Melanoplus tepidus* Morse and *M. similis* Morse were taken at the same time. *M. primaestivus* is an early maturing form, reaching its peak abundance in late June or early July. The name *primaestivus* is from Latin (*prima* and *aestivus*) meaning first of the summer, indicating that it is an early maturing form.

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New Stoneflies from Idaho (Plecoptera) [1]

Alan V. Nebeker and Arden R. Gaufin [2]

Several stoneflies new to Idaho are described and recorded here along with a list of stoneflies now known to occur in the state. Most of the data has been accumulated by the authors, but valuable material borrowed from Dr. W. F. Barr, Mr. S. D. (Skip) Smith, and Mr. Dick Logan, University of Idaho, Moscow, is gratefully acknowledged. Assistance from Mr. Stanley G. Jewett, Jr., is also gratefully acknowledged.

Capnia nedia new species

Male: Wings brachypterous, length of body 6 mm. First nine abdominal tergites without special modifications. No lobe on

[1] This work was supported by N.I.H. and N.S.F. grants no. WP 54 & G-20703.

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ninth sternite. Supra-anal process reflexed, extending forward to eighth tergite, narrow in dorsal view, somewhat triangular in side view (Figs. 1, 2, 3).

Holotype male: Idaho, Boise Co., Boise, Sand Cr. IV-8-61, Max Ollieu.

Only a single male is known. It was dissected from a mature nymph which had just begun to exuviate. The male supra-anal process is distinct, showing no resemblance to other Idaho *Capnia*.

Capnia cygna Jewett

Two mature *Capnia nymphs* were dissected and identified as a male and female of *C. cygna* Jewett. The female is herein described. The males were described by Jewett (1954) from two males from Washington (probably Rock Cr.—no specific locality). This is the first record of this rare species from Idaho.

Female: Wings fully formed, eighth sternite unmodified except for a minute median notch on posterior edge. Two inconspicuous patches of hairs on eighth sternite (Fig. 8).

Figs. 6 and 7 show the male supra-anal process as it was when dissected from the nymphal skin. Fig. 5 illustrates the normal position (Jewett, 1954) in the naturally emerged adult. The process is directed back in the nymph with the nymphal cuticle forming a sheath around it (10th tergite). After exuviation the process is inverted and assumes the position in Fig. 5. This position is different from that in Plecoptera such as Alloperla in which the supra-anal process is preformed directed anteriorly. A very large tubercle is found on the hind margin of the 7th tergite of the specimens illustrated by Jewett. No such tubercle is found on the specimen illustrated here but a patch of spines is found in the same position. It may be assumed that after exuviation the tubercle is 'blown up' possibly as in wing expansion. A tubercle as large as that illustrated by Jewett would make exuviation rather difficult if it were preformed as such within the nymphal skin.

Capnia distincta Frison

This species is now known to occur in Idaho and is probably widespread in many parts of the state. Collections were made by the authors during the winter and spring of 1965.

It has been found at the following localities: Salmon R., Hwy. 93, 3 mi. W. of Clayton, Custer Co., III-7-65, A. V. Nebeker, 8 males, 5 females; Lake Fork Cr. Hwy. 15, 10 mi. So. of McCall, Valley Co., III-24-65, A. V. Nebeker, 1 female; Salmon R., South Challis, III-14-65, A. R. Gaufin, 1 female; N. Fk. Teton R., Hwy. 32, Fremont-Teton Co., III-6-65, A. V. Nebeker, 5 males, 3 females.

Capnia coloradensis Claassen

This common Rocky Mt. species is now reported from several localities in Idaho. Most specimens were collected during the intensive investigations in 1965.

It has been collected from the following localities: Salmon R., So. Challis, III-14-65, A. R. Gaufin, 1 female; Pine Cr., 6.5 mi. N. Priest River, Bonner Co., III-26-65, S. D. Smith, 4 females, 3 males; Kalispell Cr., 35 mi. N. Priest River, Bonner Co., III-20-65, S. D. Smith, 4 males, 8 females; Granite Cr. and Priest Lake, Bonner Co., III-12-65, S. D. Smith, W. F. Barr, L. Hawkins, 1 female, 1 male; Santa Cr., 3 mi. N. of Emida, Hwy. 95A, Benewah Co., III-25-65, A. V. Nebeker, 5 males, 7 females; Basin Cr., at jct. with Salmon R., 10 mi. W. of Stanley, Custer Co., III-7-65, A. V. Nebeker, 1 male; N. FK. of Teton R., Hwy. 32, Fremont-Teton Co., III-6-65, A. V. Nebeker, 4 males, 5 females; Salmon R., Hwy. 93, 3 mi. W. of Clayton, Custer Co., III-7-65, A. V. Nebeker, 2 males, 1 female.

Capnia trava Nebeker & Gaufin

Two additional species of *Capnia* belonging to the *Capnia columbiana* group have also been found in the state. One of those is *Capnia trava* which has been found only in the northern part of the state.

The following are collection records for this species: Granite Creek and Priest Lake, III-12-65, W. F. Barr, L. Hawkins, 11

males, 5 females; Pine Creek 6.5 miles N. Priest River, III-12-65, W. F. Barr, S. D. Smith, L. Hawkins, 21 males, 5 females; Deep Creek 7 miles north of Naples, Hwy. 95, Boundary Co., III-26-65, A. V. Nebeker, 1 male, 1 female; Moyie River 1 mile south of Canada, Hwy. 95, Boundary Co., III-26-65, A. V. Nebeker, 2 males, 4 females.

Capnia lemoniana Nebeker & Gaufin

This species belongs to the *Capnia columbiana* complex and is not common in Idaho, being primarily a more southerly form. It has been found at the following localities: Lenore, Nez Perce Co., 3-IV-55, W. F. Barr (UI), 2 males, one female; Worm creek, Franklin Co., 23-IV-55, Jewett, Gaufin, Wilson, 1 female.

Peltoperla brevis Banks

Nymphs of *Peltoperla* have been collected in most of the cold rapid streams throughout all of central and northern Idaho and have been identified as *P. brevis*. It has not been found in the Teton Drainage of S.E. Idaho but has been found commonly in N.W. Montana.

Nemoura haysi Ricker

This species is now reported in Idaho from the following locality: Cub River, Deer Cliff Inn, Franklin Co., A. R. Gaufin, IV-23-55, 5 females, 3 males.

Nemoura californica Claassen

This species is common and widespread throughout the Rocky Mt. states. Lack of records from Idaho surely indicates a lack of collecting rather than the scarcity of the insect within the state. It has now been found at the following localities: Reeder Cr., Priest Lake, Bonner Co., W. F. Barr, VII-23-62; Moon Cr., 3 mi. E. of Kellogg, Shoshone Co., S. D. Smith, IX-16-64; Garden Cr. 2 mi. W. of Challis, Custer Co., S. D. Smith, XI-11-65.

Arcynopteryx aurea Smith

One adult male was collected by Skip Smith from Laird Park, Latah Co., V-11-62. This is the only known collection from Idaho. This is a unique species known only from areas along the Pacific Coast (Fig. 9).

Isoperla fusca Needham and Claassen

One collection record for this species can be noted as follows: Lolo Pass Summit, S. D. Smith, VII-28-64.

Isoperla mormona Banks

This abundant species is probably in collections but is recorded here from the following locality: Little Cr. Rock Cr. Canyon, Twin Falls Co., T. R. Gittins, VII-16-60.

Isoperla pinta Frison

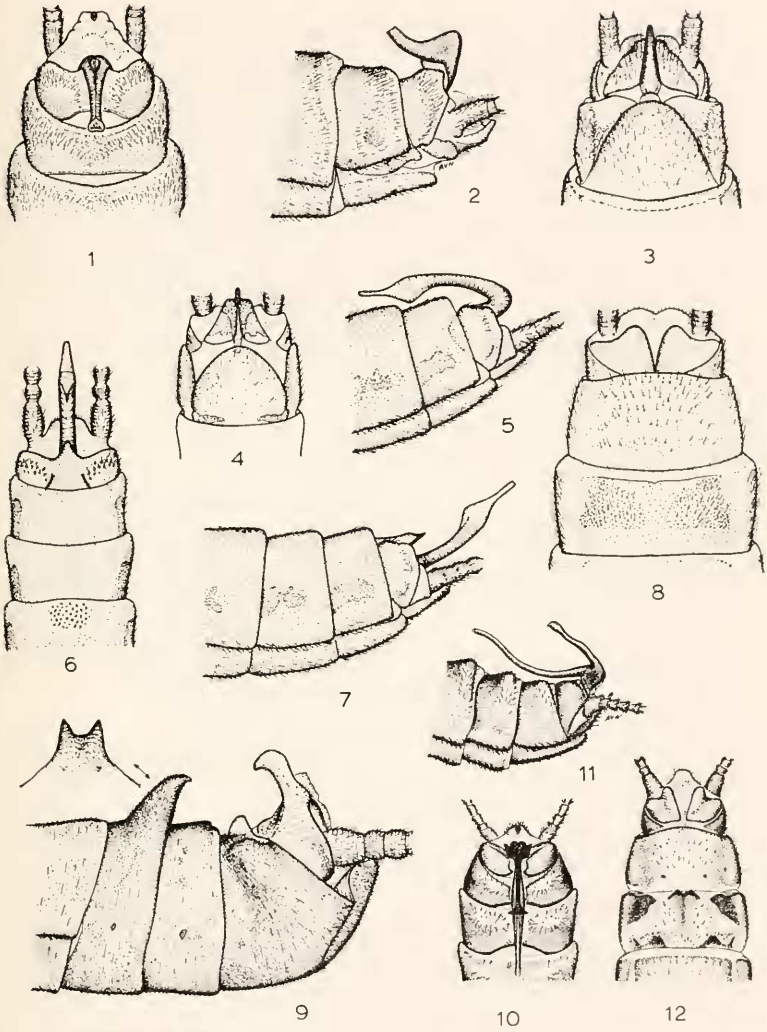
This species has recently been found to be locally common in the Rocky Mts. (Gaufin, 1964), and is here recorded for Idaho: Teton R., 4 mi. W. of Tetonia, Teton Co., W. F. Barr, VI-23-64.

Kathroperla perdita Banks

One collection record for this interesting species is as follows: S. Fk. of Coeur d'Alene R., 3 mi. E. of Mullen, Shoshone Co., A. V. Nebeker, W. C. Petty, 1 nymph. In conjunction with this, *Paraperla* cast skins have been found very commonly in many parts of the state and it appears to be one of the most common stoneflies.

Acroneuria californica Banks

This species has now been found abundantly inland from the Pacific coast as far as the continental divide and is taken rarely in the Green River drainage as far south as N. Utah.



FIGS. 1–3. Male terminalia of *Capnia nedia:* 1, dorsal view; 2, lateral view; 3, ventral view.

FIGS. 4–7. Male terminalia of *Capnia cygna:* 4, ventral view; 5, lateral view (inverted); 6, dorsal view (not inverted); 7, lateral view (not inverted).

FIG. 8. Ventral view of *Capnia cygna* female subgenital plate.

FIG. 9. Lateral view of male terminalia of *Arcynopteryx aurea.*

FIGS. 10–11. Male terminalia of *Capnia distincta:* 10, dorsal view; 11, lateral view.

FIG. 12. Ventral view of *Capnia distincta* female subgenital plate.

The following are the species known to occur in Idaho:

Peltoperla brevis Banks
Nemoura cataractae Neave
N. californica Claassen
N. flexura Claassen
N. tina Ricker
N. decepta Frison
N. delicatula Claassen
N. besametsa Ricker
N. haysi Ricker
N. cinctipes Banks
N. columbiana Claassen
N. frigida Claassen
N. oregonensis Claassen
Leutra augusta Banks
L. forcipata Frison
L. occidentalis Banks
L. sara Claassen
Megaleuctra kincaidi Frison
Capnia cygna Jewett
C. coloradensis Claassen
C. confusa Claassen
C. distincta Frison
C. gracilaria Claassen
C. lineata Hanson
C. venosa Banks
C. nedia Nebeker & Gaufin
C. zukeli Hanson
C. trava Nebeker & Gaufin
C. lemoniana Nebeker & Gaufin
Eucapnopsis brevicauda Claassen
Brachyptera occidentalis Banks
B. nigripennis Banks
B. pacifica Banks
Pteronarcella badia Hagen
Pteronarcys californica Newport
Arcynopteryx signata Hagen
A. subtruncata Hanson
A. aurea Smith
A. bradleyi Smith
A. curvata Hanson
A. parallela Frison
Isogenus tostonus Ricker
I. frontalis colubrinus Hagen
I. elongatus Hagen
I. modestus Banks
I. expansus Banks
Isoperla fulva Claassen
I. fusca Needham & Claassen
I. longiseta Banks
I. mormona Banks
I. patricia Frison
I. petersoni Needham & Christtenson
I. pinta Frison
Diura knowltoni Frison
Kathroperla perdita Banks
Paraperla frontalis Banks
Utaperla sopladora Ricker
Alloperla autumna Hoppe
A. medveda Ricker
A. serrata Needham & Claassen
A. severa Hagen
A. lineosa Banks
A. pallidula Banks
A. albertensis Needham & Claassen
A. borealis Banks
A. coloradensis Banks
A. fidelis Banks
A. fraterna Frison
A. lamba Needham & Claassen
A. diversa Frison
A. signata Banks
Acroneuria californica Banks
A. theodora Needham & Claassen
A. pacifica Banks
Claassenia sabulosa Banks

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The Status of Pezotettix bohemani Stål (Orthoptera: Acrididae), with Designation of a Lectotype and Restriction of the Type Locality

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In his paper on the Orthoptera of Colorado, Hebard (1929) suggested that a southern form of the *Melanoplus dodgei* complex be recognized as a distinct subspecies of *M. dodgei*. He used Stål's name *bohemani* (*Pezotettix bohemani*—though he erroneously referred to it as *P*[*odisma*] *bohemani*), stating that "Comparison of large series before us from the mountains of southern Colorado and northern New Mexico with the description of *bohemani* and paratypes of *altitudinum* convinces us that *bohemani* is a southern race of *dodgei*, with *altitudinum* a synonym. Scudder had placed *bohemani* as a synonym of *dodgei*." (The reference to altitudinum is to *Pezotettix altitudinum* Scudder (1879), which was described from northern New Mexico and southern Colorado.) Later, Hebard (1935) stated that